WHAT IS CLAIMED IS:

1. An imaging catheter having distal and proximal ends and a lumen, comprising:

an imaging device located within the lumen of a distal portion of the catheter;

a sensor coupled to the imaging device within the lumen; and

one or more traces formed over the sensor, wherein the one or more traces are configured to electrically couple the imaging device to an energy source.

2. The imaging catheter of claim 1, wherein the sensor is an insulated conductive wire formed into a coil shape.

3. The imaging catheter of claim 1, wherein the sensor is proximally coupled to the imaging device within the lumen.

4. The imaging catheter of claim 1, further comprising a potting layer surrounding the sensor, wherein the one or more traces are formed in the potting layer.

5. The imaging catheter of claim 1, further comprising a first wire and a second wire that are proximally coupled with the sensor, wherein the one or more traces are electrically coupled with the first wire and second wire.

6. The imaging catheter of claim 5, further comprising a driveshaft surrounding the first and second wires.

7. The imaging catheter of claim 5, wherein the first and second wires are configured as a coaxial cable having an inner cable and an outer cable, which are respectively the first and second wires.

8. The imaging catheter of claim 5, wherein the first and second wires are configured as a shielded, twisted pair.

9. The imaging catheter of claim 1, wherein the sensor is adapted to communicate with a medical positioning system.

10. The imaging catheter of claim 1, further comprising a solid magnetic core surrounded by the sensor.

11. The imaging catheter of claim 1, wherein the one or more traces are formed with a conductive pen.

12. The imaging catheter of claim 1, wherein the imaging device is an imaging transducer.

13. The imaging catheter of claim 12, wherein the imaging transducer comprising an acoustic lens coupled with a layer of piezoelectric crystal, the piezoelectric crystal being coupled with a backing material.

14. The imaging catheter of claim 13, wherein the backing material comprises a tungsten material.

15. The imaging catheter of claim 1, wherein the imaging device operates electrically in parallel with the sensor.

16. An imaging apparatus for use within the lumen of a blood vessel comprising:

a coaxial cable having an inner wire and an outer wire;

a drive shaft coil, having distal and proximal ends, surrounding the coaxial cable;

a sensor coil coupled to the distal end of the drive shaft coil;

a non-conductive layer of epoxy surrounding the sensor coil;

an imaging device, having first and second terminals, coupled to a distal portion of the sensor coil; and

first and second traces residing in the non-conductive layer of epoxy;

wherein one of the inner and outer wires of the coaxial cable is coupled with one of the first and second terminals of the imaging device via one of the first and second traces, and the other of the inner and outer wires of the coaxial cable is coupled with the other of the first and second terminals of the imaging device via the other of the first and second traces.

17. The imaging apparatus of claim 16, further comprising an inner core surrounded by the sensor coil.

18. The imaging apparatus of claim 17, wherein the inner core is a solid magnetic core.

19. The imaging apparatus of claim 17, wherein the inner core is a high permeability core.

20. The imaging apparatus of claim 16, wherein the imaging device is an imaging transducer.

21. The imaging apparatus of claim 20 wherein the imaging transducer comprises an acoustic lens coupled with a piezoelectric crystal layer, and the piezoelectric crystal layer is coupled with a backing material.

22. The imaging apparatus of claim 21, wherein the acoustic lens is electrically coupled with one of the first and second terminals and the backing material is electrically coupled with the other of the first and second terminals.

23. The imaging apparatus of claim 21, wherein the backing material comprises tungsten.

24. The imaging apparatus of claim 21, wherein the backing material comprises silver particles in an epoxy substrate.

25. The imaging apparatus of claim 20, further comprising a sonolucent media in the lumen of the sheath, wherein at least one of the first and second terminals is insulated from the sonolucent media in contact with the imaging transducer.

26. The imaging apparatus of claim 16 wherein the sensor coil is adapted to communicate with an external medical positioning system.

27. A medical imaging system comprising:

a medical positioning system; and

an imaging device adapted to be inserted into a lumen of a body, the imaging device including:

a catheter having distal and proximal ends and a lumen;

an imaging device located within the lumen of a distal portion of the catheter;

a sensor coupled to the imaging device within the lumen of the catheter, wherein the sensor is configured to communicate with the medical positioning system;

a non-conductive material surrounding the sensor; and

one or more conductive traces formed within the non-conductive material, wherein the one or more conductive traces are configured to electrically couple the imaging device with an energy source.

28. The medical imaging system of claim 27, wherein the non-conductive material comprises of parylene.

29. The medical imaging system of claim 27, wherein the non-conductive material comprises of epoxy.

30. The medical imaging system of claim 27, wherein the imaging device is an imaging transducer.

31. The medical imaging system of claim 30 wherein the imaging transducer comprises an acoustic lens coupled with a layer of piezoelectric crystal, the piezoelectric crystal being coupled with a backing material.

32. The medical imaging system of claim 27, wherein the sensor includes a conductive wire wrapped around a solid magnetic core.

33. The medical imaging system of claim 27, wherein the catheter includes a driveshaft proximal to the sensor.

34. The medical imaging system of claim 27, wherein the imaging device operates electrically in parallel with the sensor.